The Files 11 September 1957

25X1A9a [redacted]

25X1A2g Trip Report [redacted]

25X1A5a1 1. On Wednesday, September 4, 1957 a visit was made to the [redacted]. to monitor the progress of Contract
25X1A2g [redacted] Participating in discussions during this visit were:

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[redacted]
25X1A9a OC-E/R&D-
OC-E/R&D-EP

25X1A5a1 2. [redacted] indicated that our project had progressed to the point where a full time environmental engineer could now be assigned. He declared that reliability, which is one of the principal aims of the project, could be insured only by a careful selection of purchased components minute examination, and he reviewed his company's extensive experience in this field. [redacted] expressed satisfaction at the progress his engineers were making and said that there was a real possibility of making complete delivery of [redacted] four to six months prior to the scheduled contract completion date of May 1959.

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25X1A5a1 3. The latest oscillator and amplifier modules fabricated by [redacted] were examined. It now appears that a module size of 1½" by 1½" by 1⅛" will be the largest in the half watt series. Present indications are that the typical half-watt transmitter will consist of four modules for each of four bands from 3 to 30 mc:

a) Oscillator module - containing transistor oscillator and buffer circuits.

b) Amplifier module - containing a sub-miniature tube operating at about 1.5 watts input

c) Keying module - containing side tone oscillator and CW key

d) Antenna Matching module - containing a 40-1200 ohm 450-45° matching network and low-pass filter.

A modulator module (containing a pre-amp and modulator) would be substituted for the keying module when A-3 operation was desired. All five modules would be required for A-2 operation. Development to date has been concentrated on modules for the 3-6 megacycle band only.

4. Breadboard models of the sidetone oscillator and the miniature telegraph keys were examined. The sidetone oscillator, which now operates from DC instead of from RF, seems to be satisfactory and will probably double as the A-2 tone modulator. [redacted] was asked to continue its investigation of a suitable telegraph key, perhaps one which folded in and out of an amplifier module. An investigation of ceramic tubes has produced data on several tubes that seem ideal for the 5-watt final. 25X1A5a1 25X1A2g

5. Considerable progress has been made on the [redacted] matching antenna network. The breadboard built in August is now being redesigned for smaller size and more simplified operation. A miniature low-pass filter with 65 db rejection at 50 megacycles has been developed. The matching network and filter will be combined into a single antenna matching module for both half and 5-watt operation.

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[redacted]

OC-E/R&D-EP/WJS:mjr (11 Sept. 57)
cc: R&D Subject File
Monthly Report
R&D Lab
O&T/SB
R&D Chrono
EP Chrono